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PEZIZA PROTEANA VAR. SPARASSOIDES IN AMERICA

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(WITH PLATE 1)

Peziza proteana was described by Boudier,[1] in 1899, from material collected in the forêt de Carnelle, near Paris. In 1917, Seaver[2] published a photograph and description of the species, stating that it had appeared several times in the vicinity of New York City, and citing Texas, also, as within its range of distribution. Two collections of *P. proteana* were made at Ithaca, N. Y., by E. J. Petry, in 1907 and 1909, both of which were studied in the fresh condition by the writer. The plants were growing in late autumn, on burnt soil around the bases of trees, on the wooded, swampy flats at the head of Cayuga Lake. The collection made in 1907 (Herb. Durand, no. 5251) consisted of three separate ascomata, about 5 cm. in diameter, bowl-shaped and somewhat inequilateral, and of one group made up of several cups coalesced into a large, irregular *Gyromitra*-like mass. The specimens were all growing together, and microscopical examination disclosed no differences in either excipular structure or hymenial characters. The compound mass gave every appearance of being an extreme development of the condition seen so often among the fleshy Pezizas when growing closely crowded together. In *P. badia* and *P. vesiculosa,* for example, the writer has seen large numbers of crowded ascomata not only cohering closely, but the tissues of adjoining cups so completely grown

[1] Bull. Soc. Myc. Fr. 15: 50. *pl. 3. f. 1.* 1899.

[2] Mycologia, 9: 1–3. *pl. 1.* 1917.

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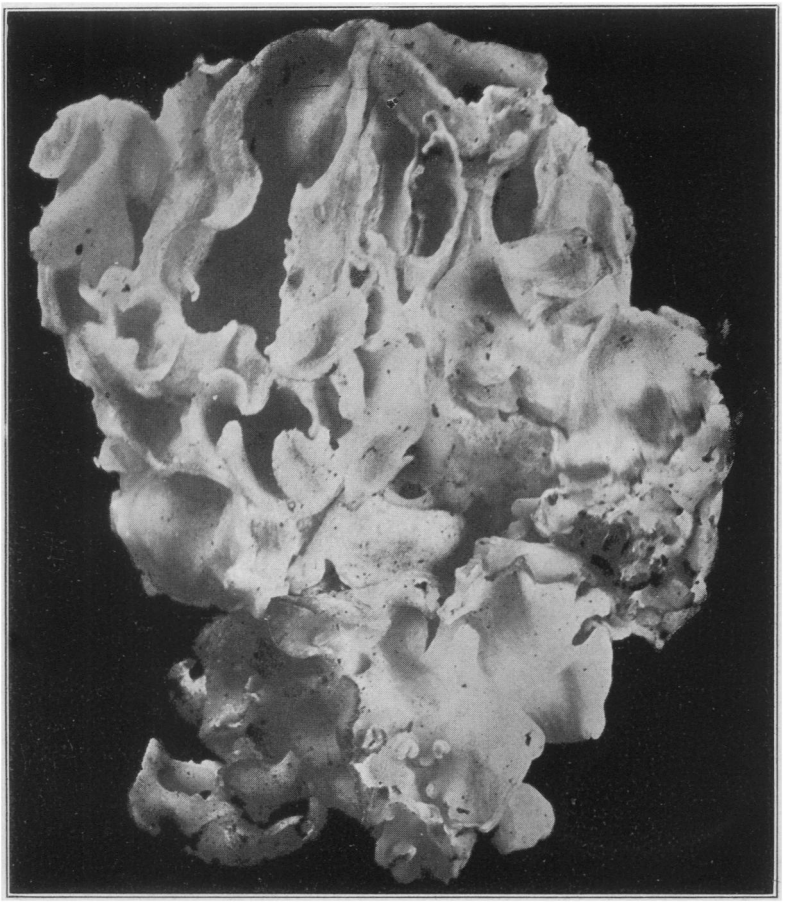

PEZIZA PROTEANA SPARASSOIDES BOUD.

together that they could not be separated, and it was difficult to make out in sections where one ended and the other began. In Petry's 1909 collection (Herb. Durand, no. 6932) the numerous cups were densely cespitose and more or less coherent.

On October 27, 1909, Professor G. F. Atkinson collected beautiful specimens of the compound form, on burnt soil about the bases of dead elm trees, on the same Cayuga Flats. The masses were much larger, more intricate, and in every way more highly developed and complex than the one gathered by Petry. A very noticeable feature was the extreme brittleness of the flesh, the masses falling to pieces almost at a touch. These specimens were examined by the writer and found to agree excellently with Boudier's description and figures of *Galactinia proteana* var. *sparassoides* Boud.[3] Professor Atkinson has recently very kindly placed in my hands notes and photographs made by him from the fresh plants, with the suggestion that they be published. His notes are as follows:

"Plants sessile without any stem above or in the ground. One plant 25 cm. broad, rather old and somewhat collapsed, probably about 15 cm. high. Fresh plants smaller, more or less oval or elliptical in general outline, 10–12 cm. high by 7–9 cm. broad. At first lilac in color and the younger parts lilac, older parts becoming whitish to creamy white, very fleshy, entirely made up of convoluted branches and anastomosing, lamellar structure. The large cells or caverns .5–2 cm. in diameter, irregular, extending from the base through all parts of the plants, thus sometimes having a more or less radiate structure. Hymenium on both surfaces of the walls. The soil at the base is sometimes quite rich in mycelium. As this comes to the surface the fruit body begins to develop, forming an irregular, expanded, and folded structure which is whitish or lilac in color, bearing the hymenium. The extension of these folds and caverns produces the large fruit body. Asci cylindrical, 200–226 × 10–12 μ. Spores uniseriate in the upper third of the ascus, elliptical, roughened, hyaline, biguttulate, 10–12 × 5–6 μ."

It should be added that the asci become intensely blue with iodine, and the excipulum consists of two layers of large, vesiculose cells, 30–60 μ in diameter, separated by a median layer of stout hyphae.

[3] Bull. Soc. Myc. Fr. **15**: 51. *pl. 3. f. 2.* 1899.

In his most recent work Boudier speaks of this plant, as follows:[4] "This curious production, which I can regard only as a luxuriant state of *Galactinia proteana* has all its anatomical characters save the margin and external form; it is to my mind an hypertrophied state of this species, excessively analogous to that which one finds in *Disciotis venosa, reticulata* and *Aleuria vesiculosa* var. *saccata.* It is remarkable for its fragility and appears more frequently than the type."

In this connection reference should be made to a plant collected by Polley, at Belton, Lake McDonald, Mont., in 1903, and described by Miss Hone[5] under the name *Gyromitra Phillipsii* Mass Miss Hone's notes indicate a plant very similar to *P. proteana* var. *sparassoides,* and examination of alcoholic material kindly sent to the writer by Miss Hone proves that it is identical with the one collected at Ithaca.

One is thus led immediately to inquire whether Boudier's *G. proteana* var. *sparassoides* may not be the same as Massee's *Gyromitra Phillipsii.* A careful study of Phillips's description and figures[6] of the plant which he regarded as the true *Gyromitra gigas* Kromb., and of Massee's description[7] has convinced the writer that the two plants are identical without question. However, only a study of authentic specimens, which are not available to the writer, can settle the matter definitely.

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[4] Icon. Myc. 4: 162. 1911.
[5] Postelsia, 1906: 237–244. 1906.
[6] Journ. Bot. 31: 129. *pl. 334.* 1893.
[7] Brit. Fung.-Flora 4: 478. 1895.